Curriculum vitae

Personal information

First name, Surname:	Marit Otterlei		
Date of birth:	30.11.1963	Sex:	Female
Nationality:	Norwegian		
Researcher unique identifier	ORCID: 0000-0002-5232-1186		
URL for personal website:	https://www.ntnu.edu/employees/marit.otterlei		

Education

Year	Faculty/department - University/institution – Country
1994	**PhD in the field of innate immunity,** Dept. of Biotechnology/ Dept. of Cancer Research, The Norwegian Institute of Technology (NTH) / University of Trondheim (UNIT), Trondheim, Norway.
1988	**MSc** (Siv. ing) Biotechnology, Dept. of Biotechnology, NTH, Norway.

Positions - current and previous

Year	Job title – Employer – Country
2003-	**Professor in Molecular Biology/Molecular Medicine,** Department of Clinical and Molecular Medicine (IKOM), Faculty of Medicine and Health Sciences (MH Faculty), Norwegian University of Science and Technology (NTNU), Norway.
2002-	**Research Group Leader**, IKOM, NTNU, Norway. Received a carrier grant (2002-2007) from the Research Council of Norway
2010-	**Chief Scientific Officer** (CSO), APIM Therapeutics, Norway (35% FTE since 2010).
2019	Visiting Scientist, Research Cancer Centre of Marseille (CRM), France (spring) and Department of Biology, University of Copenhagen, Denmark (fall).
2002-2003	**Visiting Scientist**, Laboratory of Molecular Gerontology, National Institute on Aging (NIA), National Institutes of Health, Baltimore, USA.
1994-2002	**Postdoctoral Fellow** in the field of DNA repair, UNIGEN, Center for Molecular biology, NTNU. From 1998, also Associate Professor II, at Dept. of Cancer Research, NTNU, Norway.

Project management experience last 10 years

Year	Project owner - Project - Role – Funder
2019-2024*	NTNU, "Targeting AMR by inhibition of bacterial stress responses", PI, Trond Mohn Foundation (AMR research program). 20 mill NOK.
2018-2020*	NTNU, "Anti-bacterial peptide drug development", PI, NTNU Health Strategic Research Area. 10 mill NOK.
2013-2017	NTNU, "ATX-101: a novel peptide for treatment of human cancer". PI, Research Council of Norway (RCN), Program for Innovation (BIA). 11 mill NOK
2011-2017	NTNU, "Replication coupled DNA repair", PI, Norwegian Cancer Society. 6 mill NOK.
2013-2016*	NTNU, "The development of proprietary targeted…", PI, RCN (Optimization Project, RCN, Biotech 2021). 5.5 mill NOK.
2011-2015*	NTNU, "Novel cancer target and drugs from high-throughput molecular and systems biology", PI, project under the NTNU Medical Technology program. 9 mill NOK.

*Transdisciplinary projects involving Group Leaders from several Faculties and research institutions.

Experience from relevant innovation activities

	Project/type of R&I activity and R&I content /role and tasks/funding from
2010-	Innovation/Development of anti-cancer drug/leader (CSO)/APIM Therapeutics
2013-	PI for the development of antibiotic drug

Other merits

Publications/international collaborators

I have published in total 80 papers in peer reviewed journals, out of which I am first author on 10 and corresponding author on 29. I have published **23 original papers the last 5 years,** and my publications have **5 950 citations** with a **h-index of 38** (Scopus). Several publications have been in high-impact journals such as Nuclei Acid Res. (9), The EMBO J (3), J Biol Chem (4), Scientific Reports (2), Oncogene (2), Mol Cell, Nature, J Cell Biol, and J Cell Science.
I have published with 150 different national and international co-authors from 11 different countries.

Patents & patents applications

- United States Patent no: 5459054. Cells encapsulated in alginate containing a high content of a- guluronic acid. Date: 17.10.1995
- United States Patent no: 5166137. Guluronic Acid Polymers And Use Of Same For Inhibition Of Cytokine Production. Date: 24.11.1992.
- United States Patent no: 5169840. Diequatorially bound beta.-1, 4 polyuronates and use of same for cytokine stimulation. Date: 8.12.1992.
- EP 2254904 Oligopeptide compound and uses thereof. Date: 09.03.2018.
- EP 3065760/EP 3291826 Anti-bacterial agents and their use in therapy. Date: 23.01.2020.
- EP 3065759/WO 2016177898 Immunosuppressive agents and their use in therapy. Date: 31.12.2019.
- United Kingdom Patent GB2006699.9 Dosage Regimen. Filed 06.05.21.
- United Kingdom Patent GB2109464.4. Water in oil emulsion. Filed 30.06.2021.

Three patents for peptides containing the APIM motifs have been filed and/or are approved. We are planning to file one patent for 2nd generations peptides within 2024.

Awards and Prizes

2001 SINTEF/NTNU/RIT Prize in Medical Technology, Trondheim, Norway.
2010 Medical Technology Prize, NTNU, Trondheim, Norway.
2019 Innovation Prize, Department of Clinical and Molecular Medicine (IKOM), NTNU.

Professional associations/memberships/peer-review assignments

Year	Description - Role
2021	Member of Norwegian Academy of Technological Sciences
2011-2015 & 2020-	Leader of the Laboratory Medicine Research Unit, IKOM, NTNU. The unit currently involves over 130 persons.
2016-2019	**Evaluator**, research applications to Akershus University Hospital, Norway
2012-2015	**Evaluation,** research applications, Norwegian Cancer Society
2006	Member of The Royal Norwegian Society of Science and Letters.
2005-2009	Deputy Department Leader, IKOM, NTNU
2005-2011	**National Board Member**, Program on Functional Genomics in Norway (FUGE), RCN
2003-	**Reviewer**: NAR, Oncogene, IJMS, DNA repair, Cancers etc

Supervision of students

Master's students	Ph.D. students	University/institution – Country
36 (1 ongoing)	21 (5 ongoing)	Norwegian University of Science and Technology (NTNU), Trondheim, Norway.

Contribution to the field of research and innovation

I was as a postdoc central in the discovery of replication associated base excision repair (*The EMBO J, 1999*) and in discovery of the repair of alkylating damage in RNA and DNA by the AlkB homolog group of proteins (*Nature, 2003*). My group subsequently discovered the novel PCNA interacting motif **APIM** in hAlkB homolog protein 2 (*J Cell Biol, 2009*). **My main research focus has since been on the role of the APIM-PCNA interactions for regulating genomic dynamics and cellular stress responses in mammalian cells**. We have discovered that PCNA has non-canonical roles important for stress responses beyond DNA damage, and that **protein - PCNA interactions via APIM are especially important during stress**.

Recently we showed that PCNA stabilize ENO1 and 6PGD, and thereby regulate primary metabolism (*Oncogene 2023, Epub 2022*). This is the first time PCNA is linked to regulation of metabolism. We also **showed that targeting PCNA with an APIM-containing peptide in stressed cells has profound effects on cellular metabolism**, while less effects in normal unstimulated primary cells.

The discovery of a novel PCNA interaction motif important during cellular stress (APIM) is taken advantage of in the design of an APIM-containing peptide drug (ATX-101) currently in Phase II clinical trials for **cancer therapy**. The clinical development of this drug is done by the NTNU-spinoff company APIM Therapeutics which I founded and currently have a part time (35%) CSO position in.

Furthermore, in my research group at NTNU we **discovered that APIM-containing peptides also have antibacterial and anti-mutagenic activities.** We have shown that this is linked to interaction of APIM with the bacterial β-clamp (*NAR 2021*). The β-clamp is a novel target for antibiotics, and we are currently exploring this with the goal to develop **new antimicrobial drugs**.

Research group fall 2023

My research group currently consists of one senior engineer/researcher, one engineer, three PhDs and one master student. In addition, two PhDs for which I am co-supervisor are working in collaborating laboratories on the TAMiR project (Professors Per Bruheim NTNU, and Birthe B. Kragelund, UCPH, both PIs in TAMiR) (TAMiR - Targeting antimicrobial resistance by inhibition of bacterial stress responses - Department of Clinical and Molecular Medicine - NTNU).